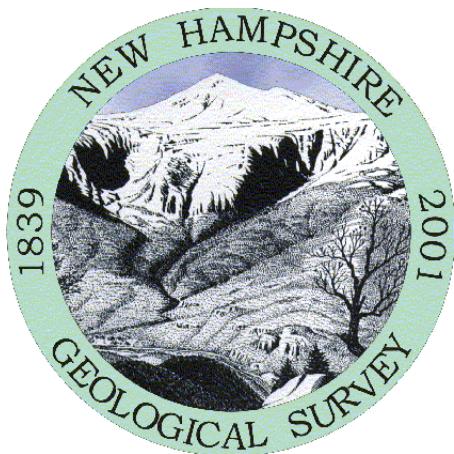


## **Groundwater Level Monitoring September 2018**



**New Hampshire Geological Survey  
29 Hazen Drive, PO Box 95  
Concord, New Hampshire 03302-0095**

**January 14, 2019**

## **GROUNDWATER CONDITIONS SUMMARY**

According to the Northeast Regional Climate Center at Cornell University (NRCC), New Hampshire received an average of 4.81 inches of rain during the month of September, which is 0.95 inches above normal or 125% of normal based on the 1981-2010 precipitation records. The southern portion of the state received more rain than the northern portion, with 5.4 inches (141%) compared to 3.62 inches (92%), respectively. The state is currently free from drought conditions and only 2.84% of the state is abnormally dry according to data released by the National Drought Mitigation Center (NDMC) on October 2<sup>nd</sup>, 2018.

Wells in the southern portion of the state range from normal to high, reflecting the continued precipitation over the last two months. The data show that all of the bedrock wells in the southern portion of the state are high. The Rindge wells have consistently been in the normal to high range during the last six month period. The bedrock well in the north woods region (Stewartstown) is below normal, reflecting the abnormally dry conditions there. The overburden wells, or wells that monitor the unconsolidated materials above bedrock, are indicating normal to high groundwater levels in the southern portion of the state. Several overburden wells in the western and northern portions of the state range from low to normal. The overburden well in Lancaster has been consistently low in the last six month period.

The New Hampshire Geological Survey's groundwater monitoring network (Figure 1) currently includes 11 bedrock (Figure 2) and 20 overburden (Figure 3) observation wells, all of which are measured monthly by hand. Using the monthly hand readings, monthly averages and percentile statistics were calculated and are summarized in Figures 1 through 3, in the following hydrographs\*, and in Tables 1 and 2.

\*The hydrographs show the following data over a period of six months: (1) current groundwater depths, (2) the monthly average over the period of record (POR) of the well, and (3) color-coded statistical ranges over the POR of the well. Note the POR is listed below each month's column on the chart and reported as the number of measurements for that respective month. This might include multiple readings in the same month and does not include gaps in data so therefore may not represent a continuous period.

## September 2018 Groundwater Levels

- High
  - Above norm
  - Normal
  - Below norm
  - Low
  - Not Analyzed
- Counties

## NDMC Drought Areas 10/02/18

■ Abnormally Dry

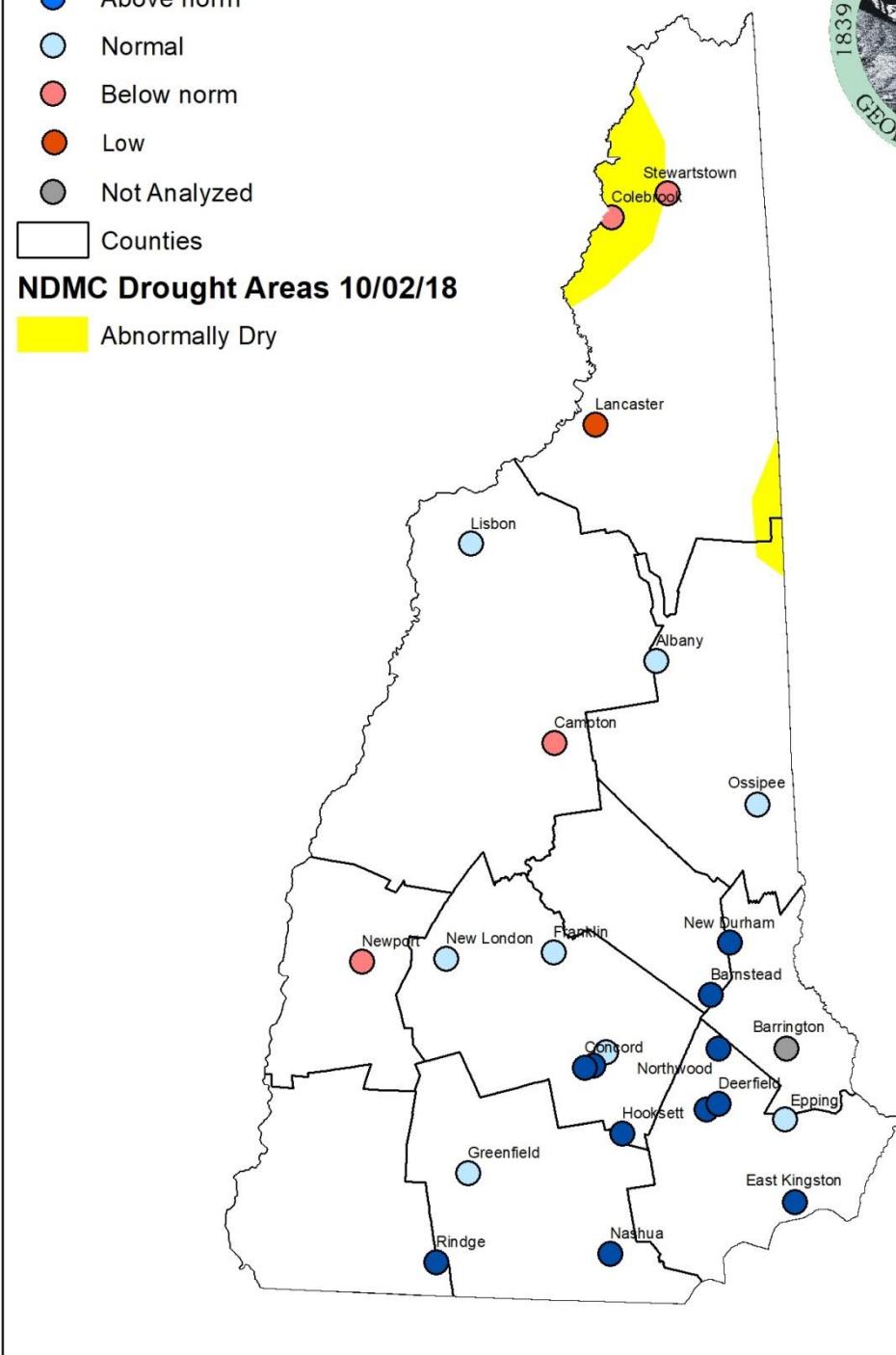


Figure 1. Groundwater Monitoring Network showing groundwater levels with respect to drought areas defined by the National Drought Mitigation Center.

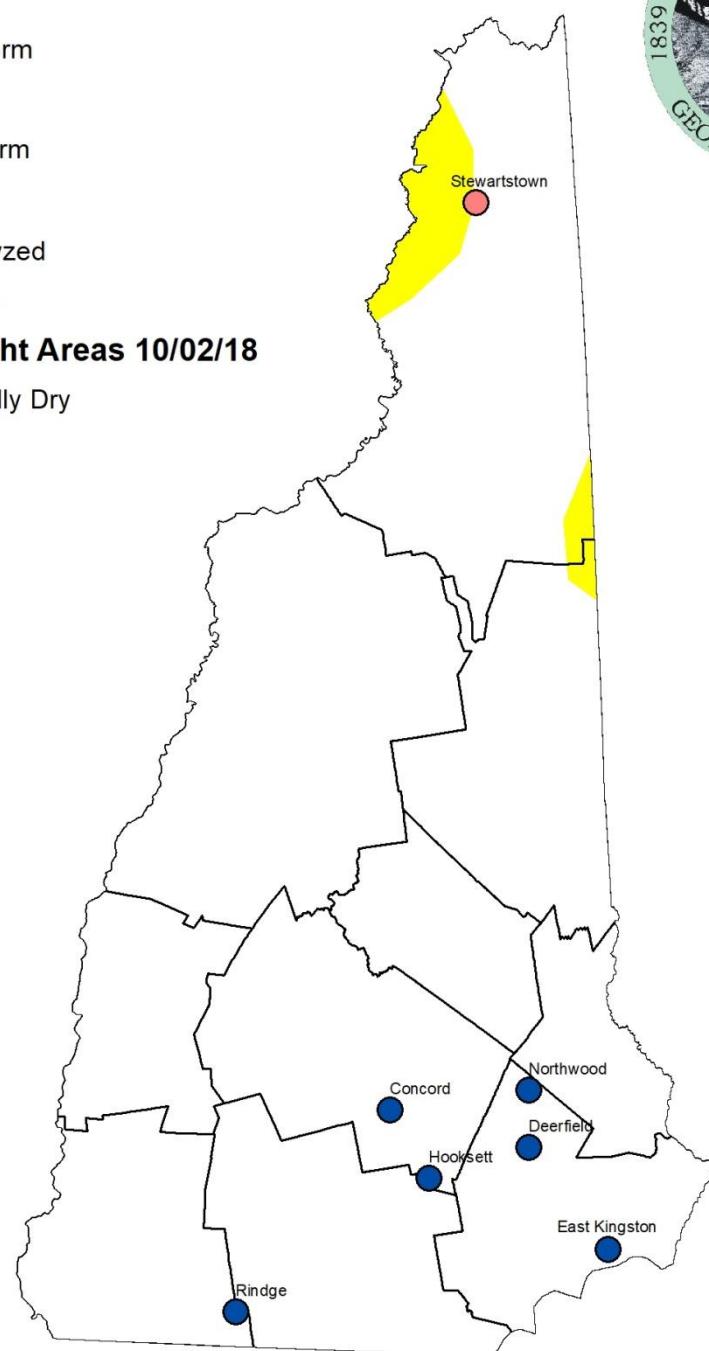
## Bedrock Groundwater Conditions

### September 2018 Groundwater Levels

- High
  - Above norm
  - Normal
  - Below norm
  - Low
  - Not Analyzed
- Counties

### NDMC Drought Areas 10/02/18

- Abnormally Dry



**Figure 2.** Bedrock wells showing groundwater levels with respect to drought areas defined by the National Drought Mitigation Center. Note: Points at Kingston, Concord, Stewartstown, and Rindge show coupled bedrock wells.

## Overburden Groundwater Conditions

### September 2018 Groundwater Levels

- High
  - Above norm
  - Normal
  - Below norm
  - Low
  - Not Analyzed
- Counties

### NDMC Drought Areas 10/02/18

Yellow Abnormally Dry

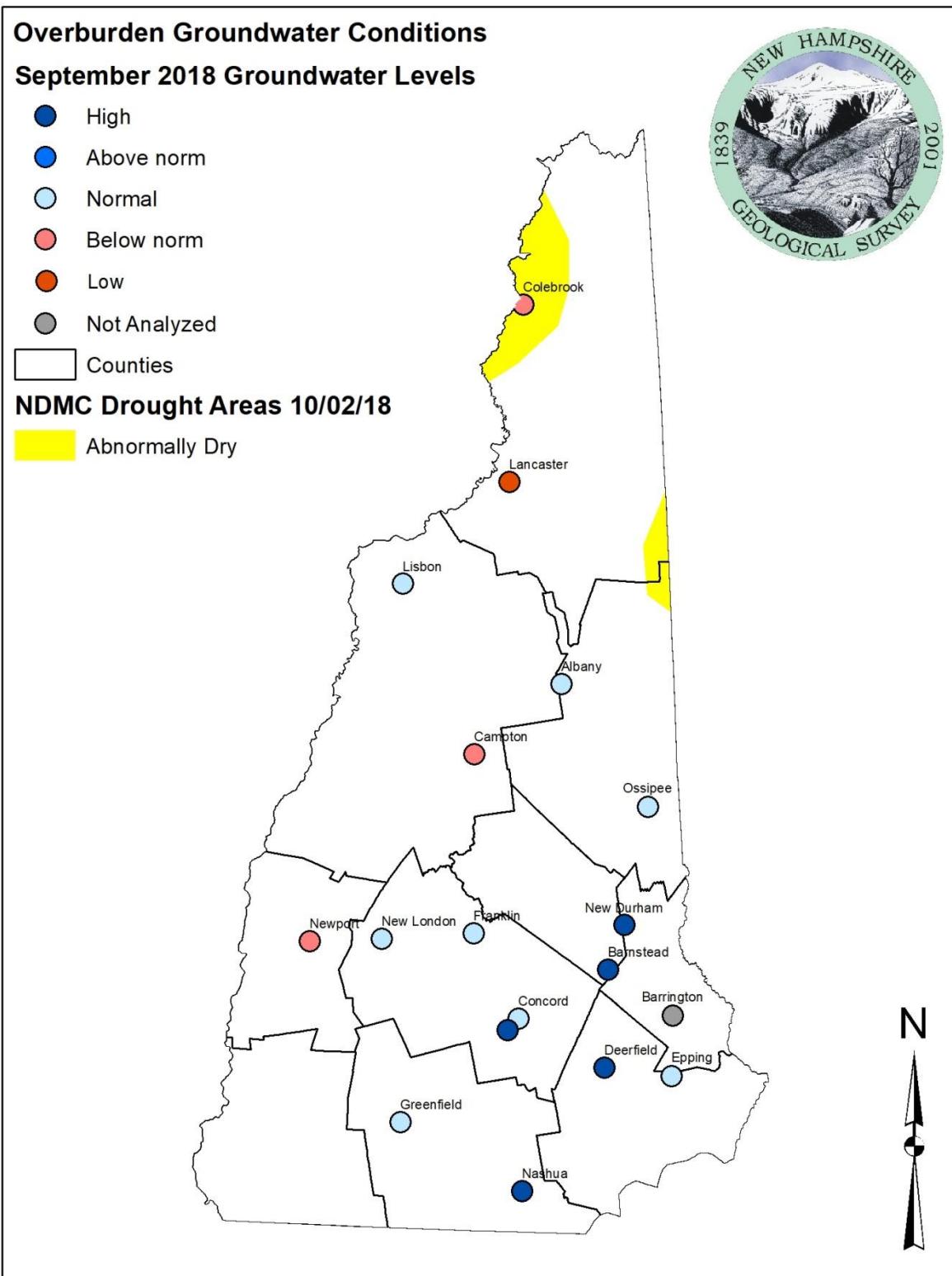
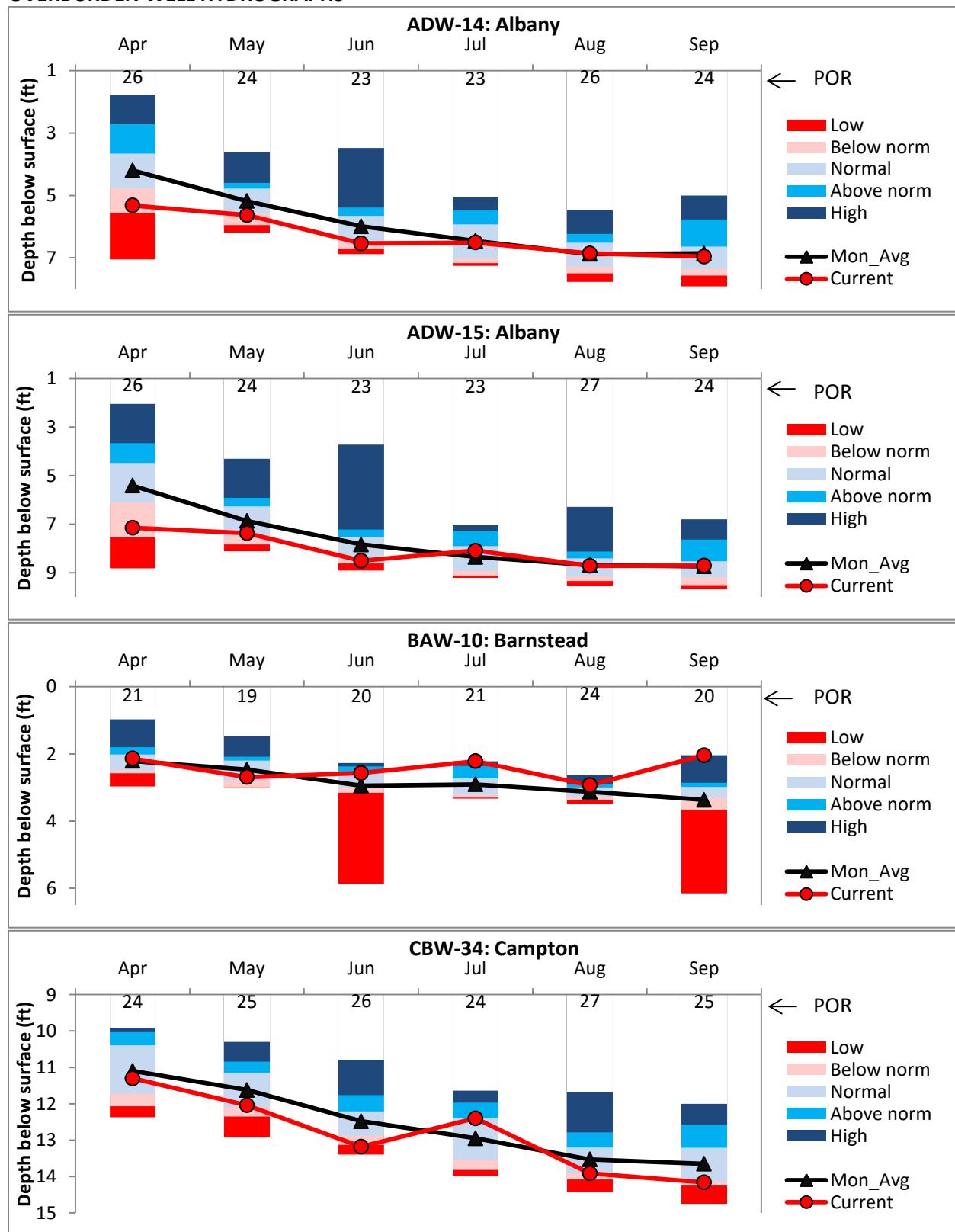
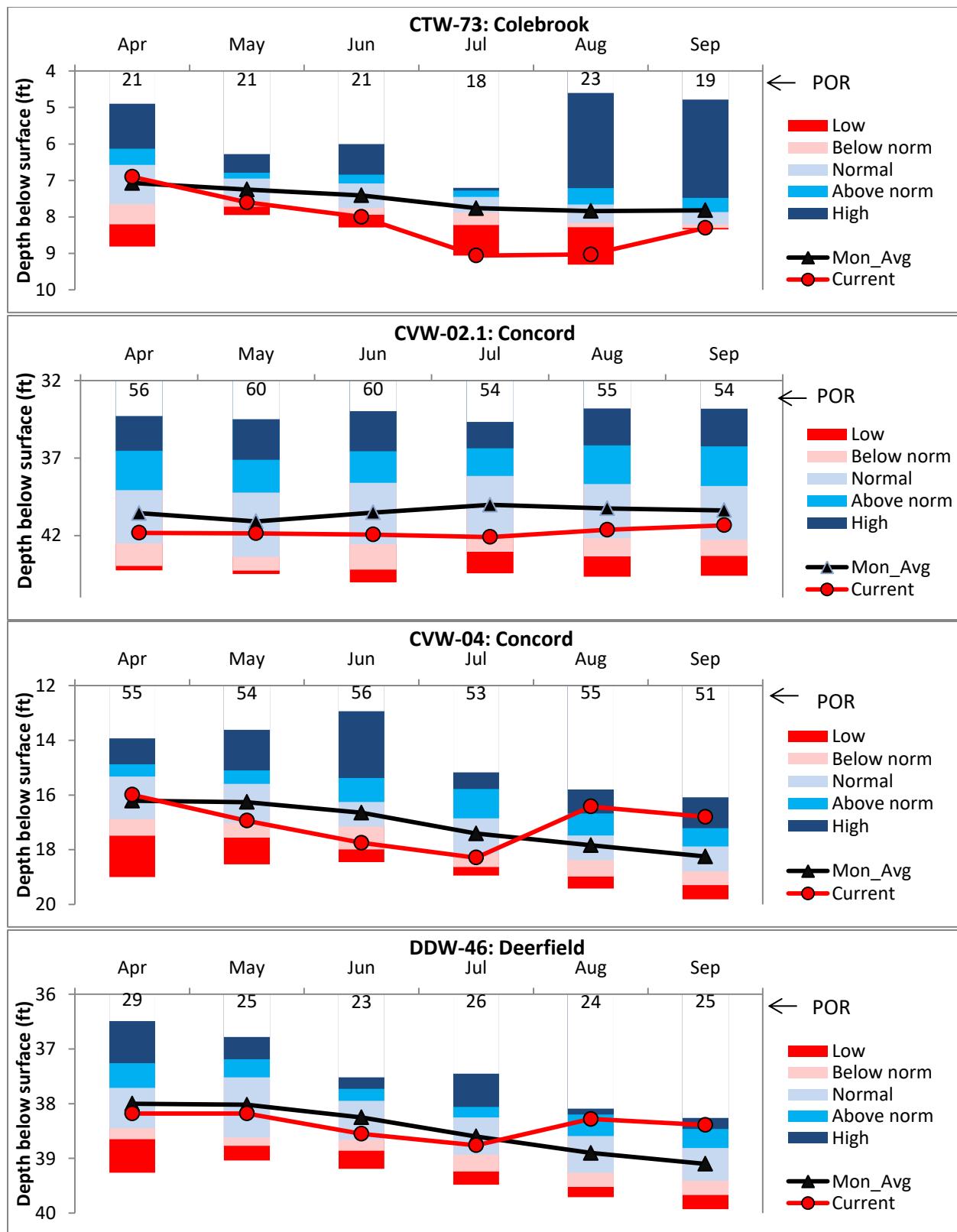
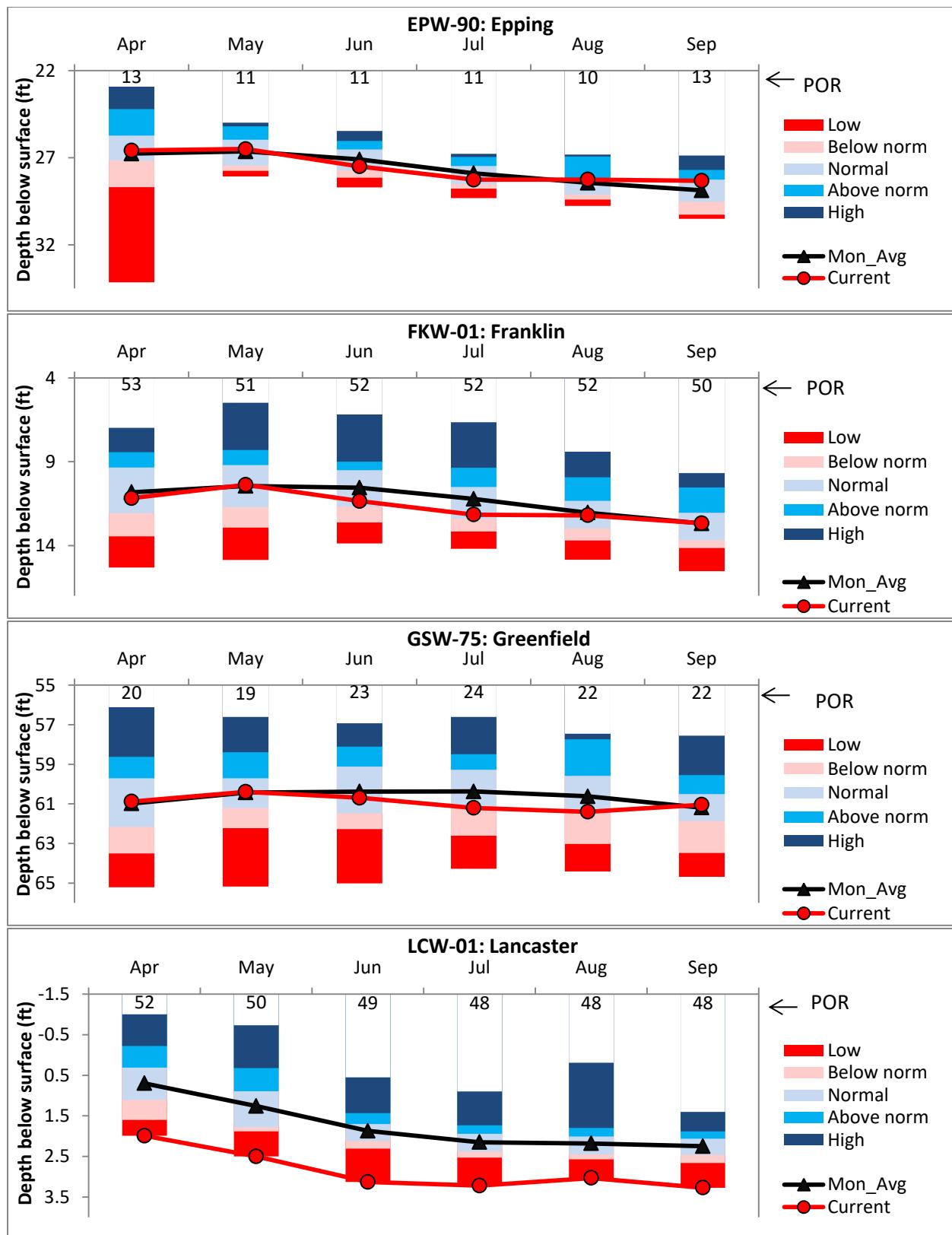


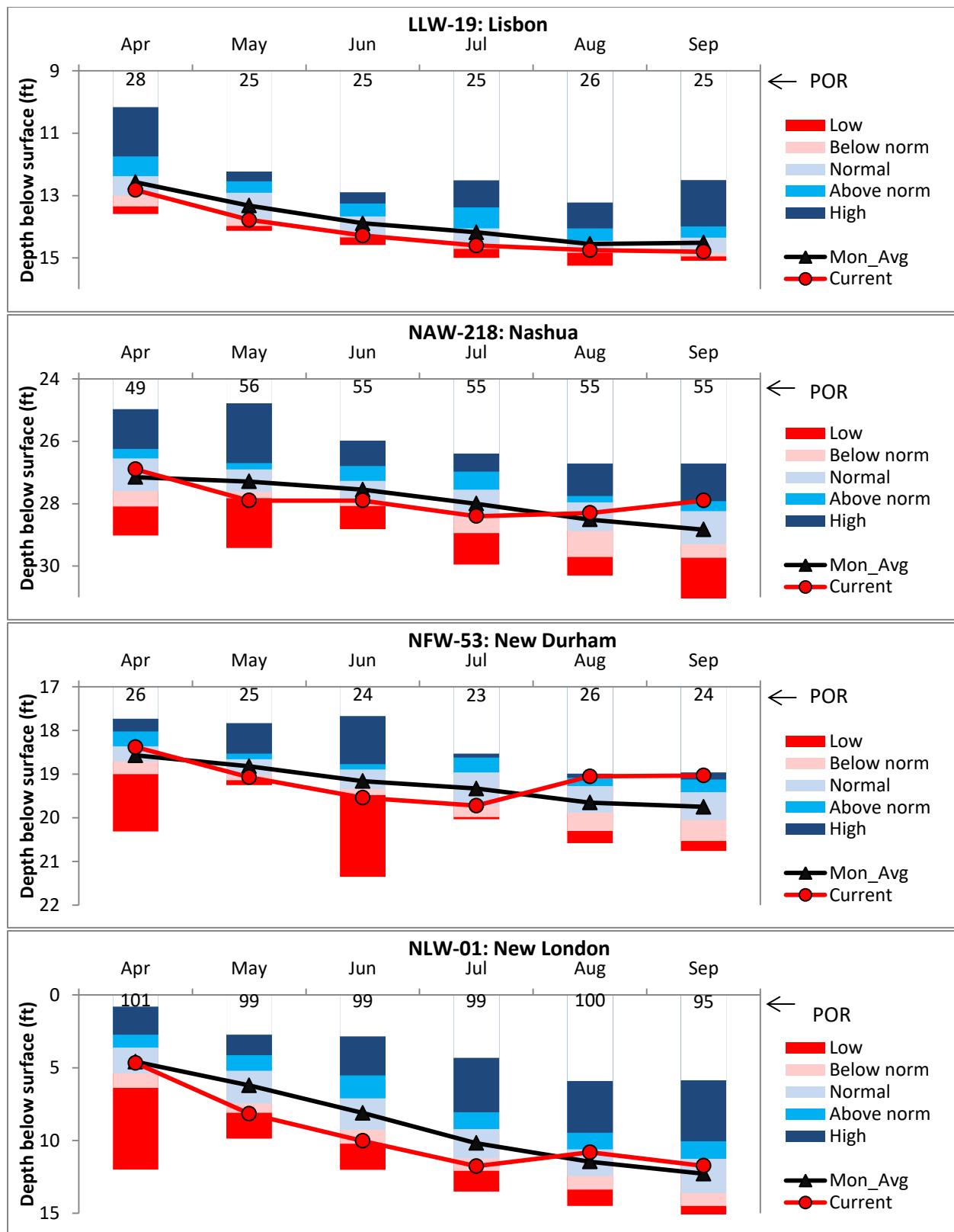
Figure 3. Overburden wells showing groundwater levels with respect to drought areas defined by the National Drought Mitigation Center. Note: Points at Newport and Albany represent a couplet.

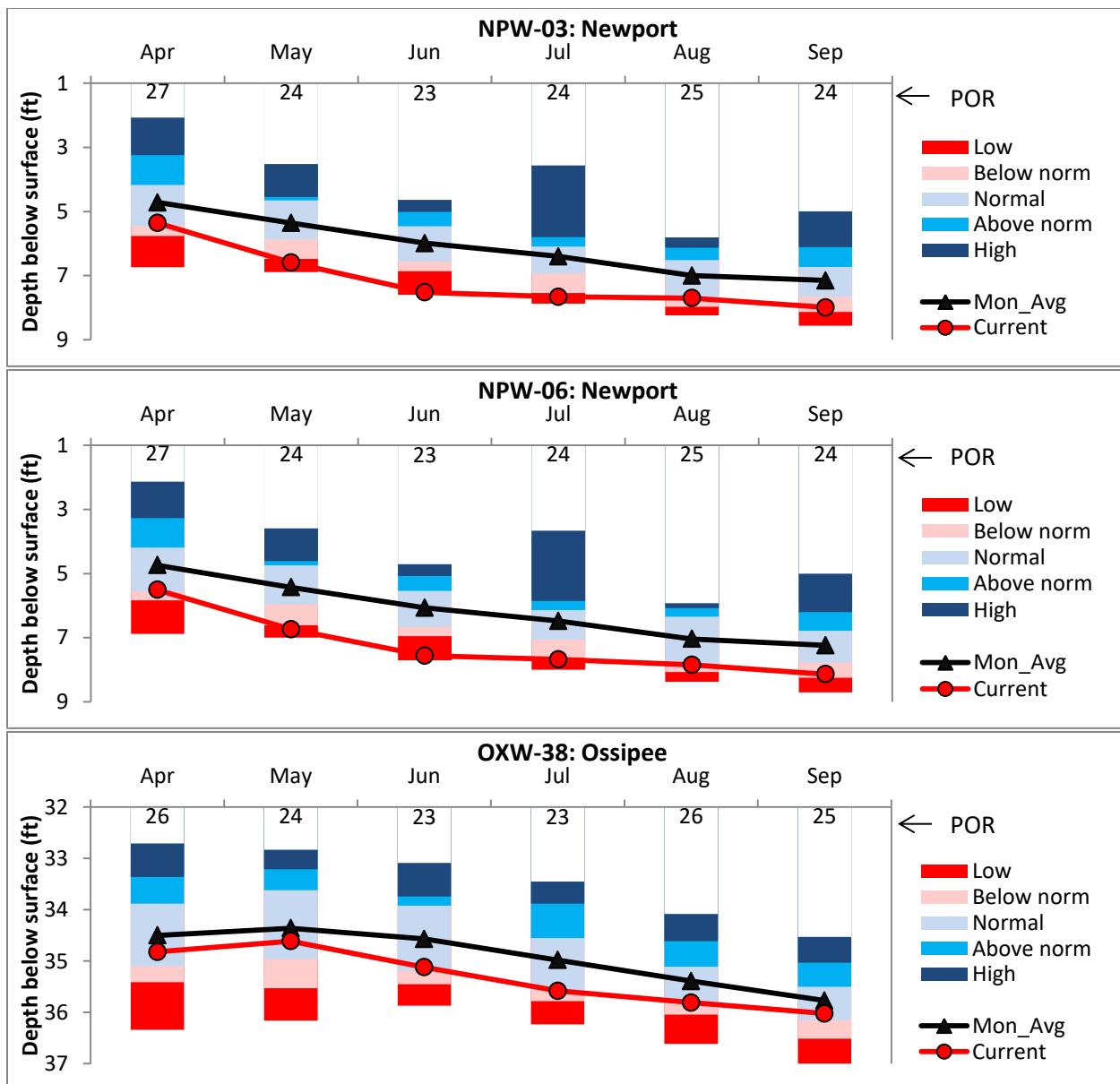
### OVERBURDEN WELL HYDROGRAPHS



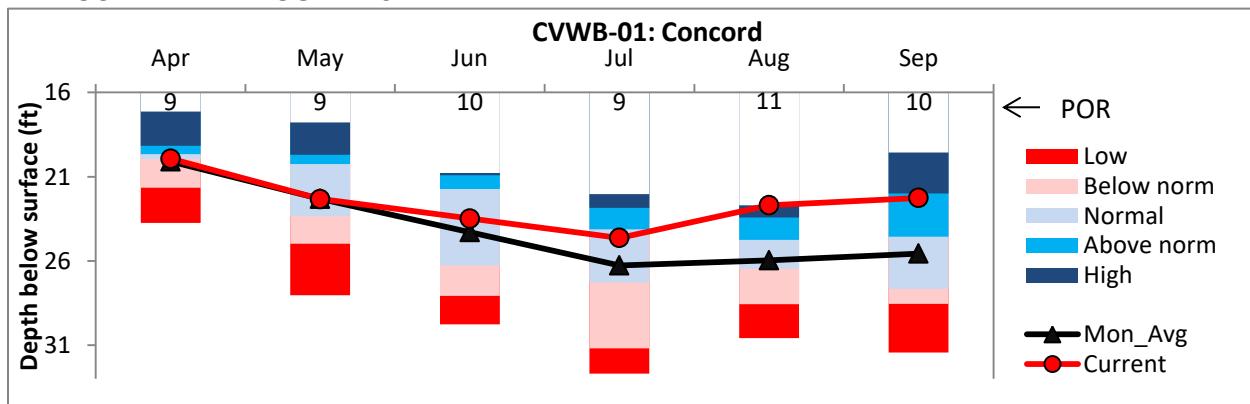


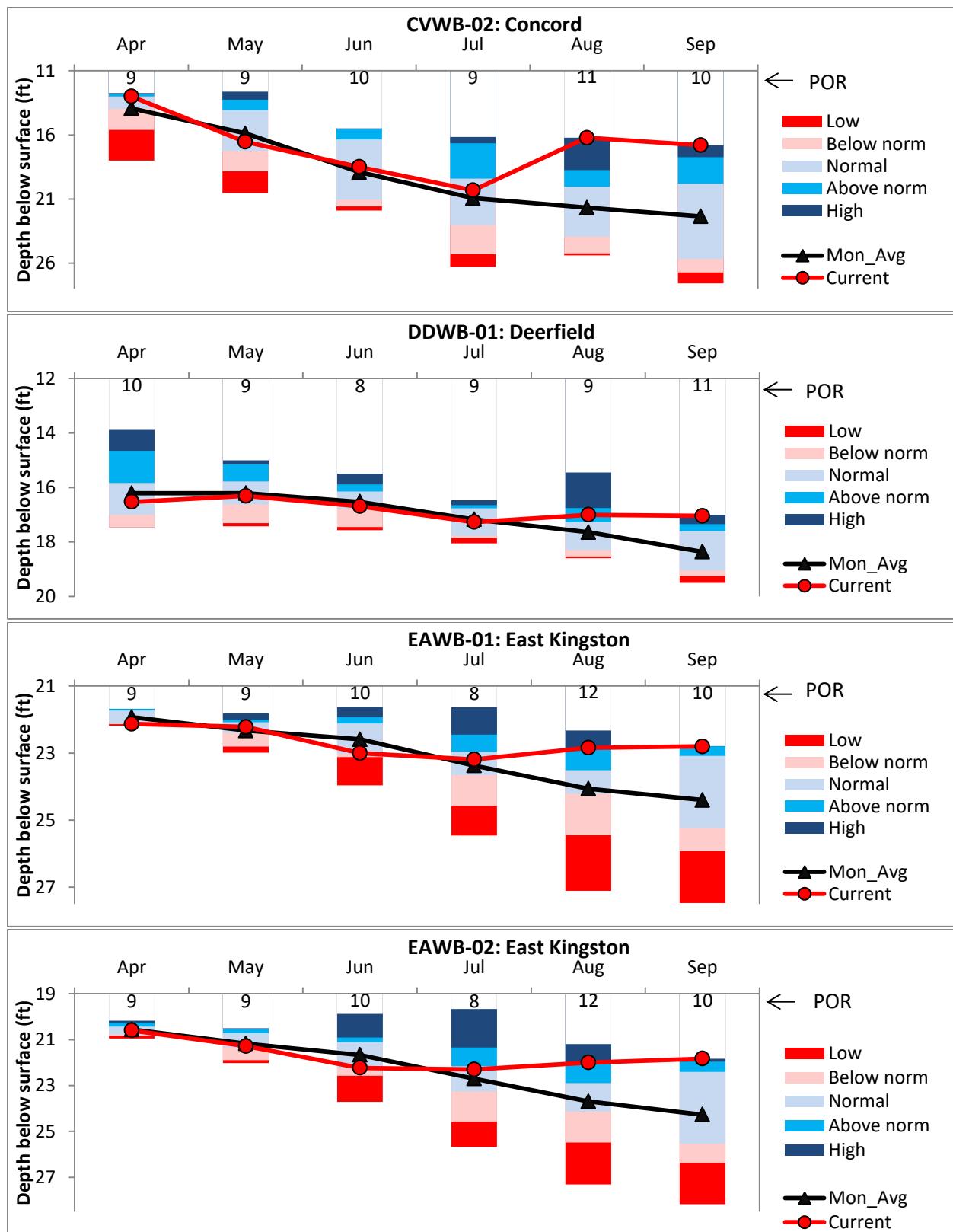


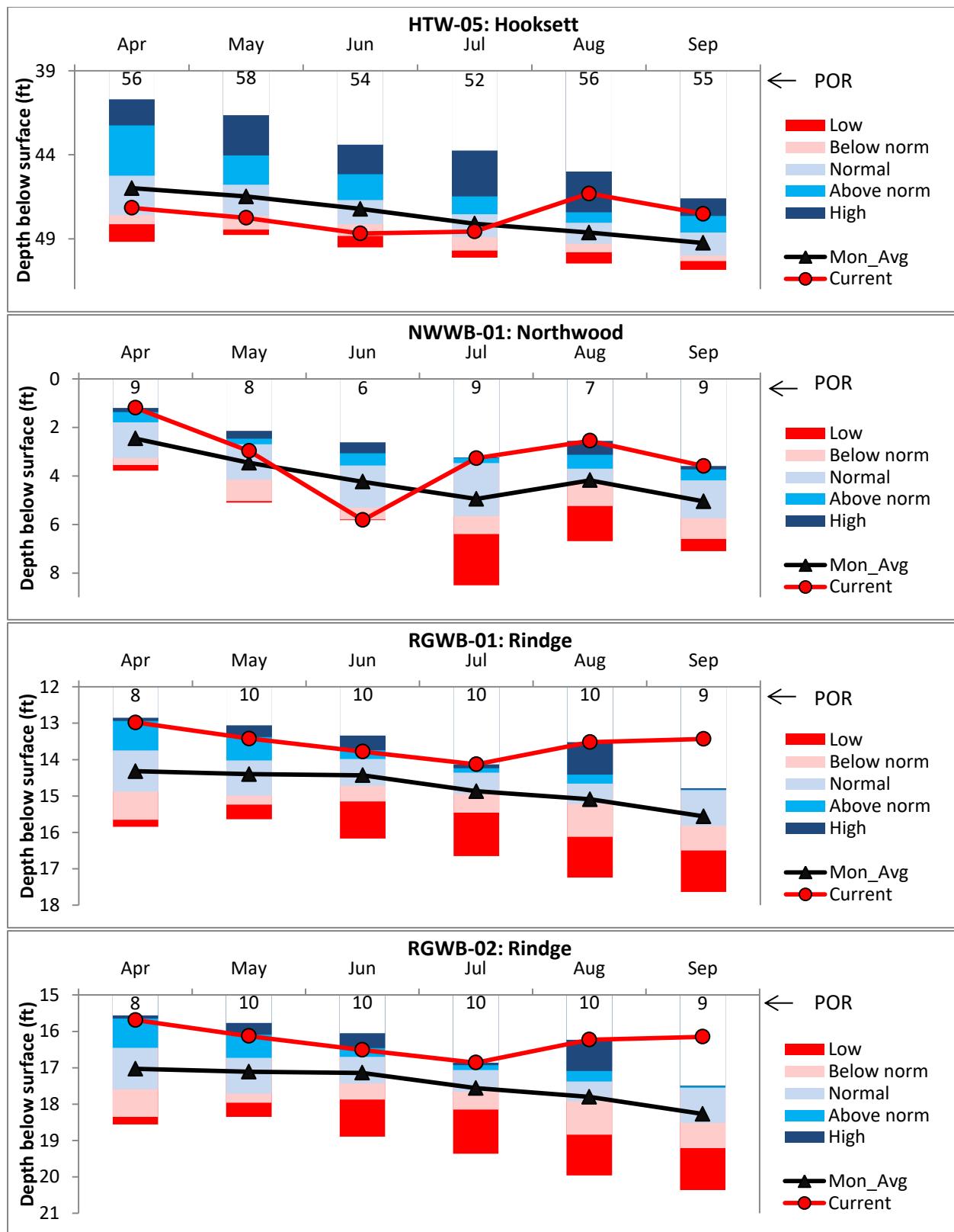


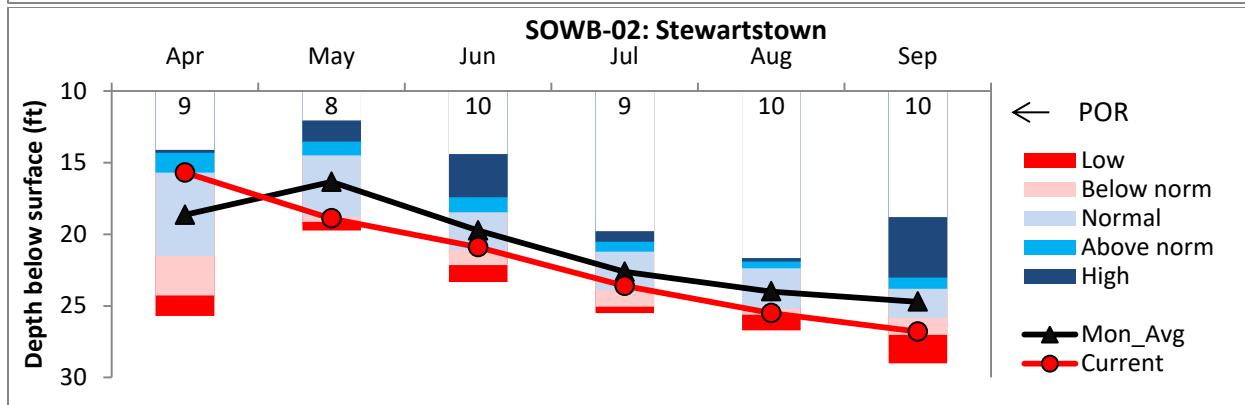
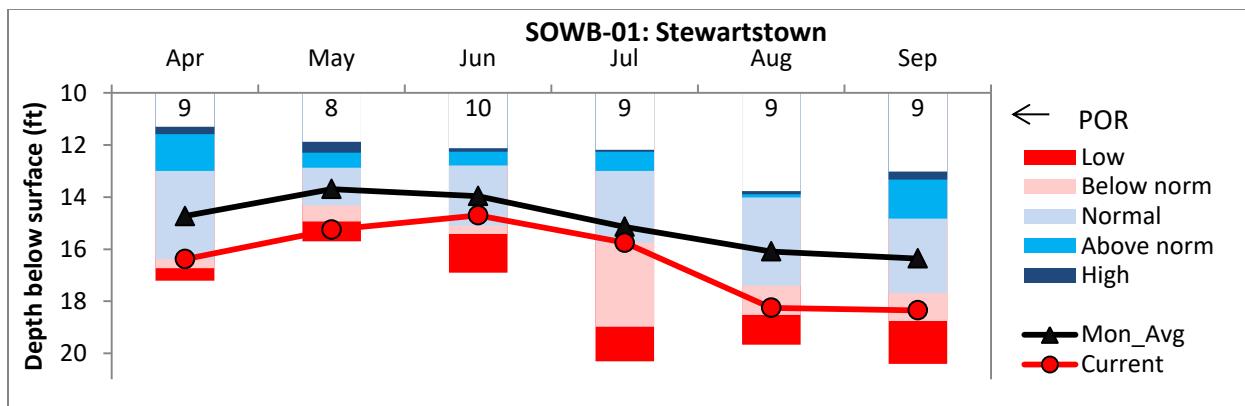


#### BEDROCK WELL HYDROGRAPHS









**Table 1.** Summary of groundwater levels in overburden wells

Well	Region	Well Type	Screen Interval (ft)	Depth to Water (ft)	Monthly Average (ft)	Current Status	Departure from Avg. (ft)	No.of meas.
BAW-10	Lakes	Overburden	23-25	2.04	2.04	High	1.33	20
FKW-01	Lakes	Overburden	49.8-52.3	12.67	12.67	Normal	0.02	50
NFW-53	Lakes	Overburden	58-60	19.03	19.03	High	0.72	24
OXW-38	Lakes	Overburden	112.7-114.7	36.02	36.02	Normal	-0.25	25
CVW-02.1	Merrimack	Overburden	59.8-61.8	41.34	41.34	Normal	-0.97	54
CVW-04	Merrimack	Overburden	39.45-40.7	16.8	16.8	High	1.45	51
DDW-46	Merrimack	Overburden	45.5-47.5	38.39	38.39	High	0.71	25
NAW-218	Merrimack	Overburden	40.5-42.5	27.9	27.9	High	0.93	55
CVWB-01	Merrimack	Bedrock	470-480	22.26	25.56	Above norm	3.3	10
CVWB-02	Merrimack	Bedrock	0-315	16.8	22.35	High	5.55	10
DDWB-01	Merrimack	Bedrock	300	17.04	18.36	High	1.32	11
HTW-05	Merrimack	Bedrock	102.7	47.51	49.25	High	1.74	55
NWWB-01	Merrimack	Bedrock	130	3.59	5.05	High	1.46	9
GSW-75	Monadnock	Overburden	66-68	61.04	61.04	Normal	0.15	22
RGWB-01	Monadnock	Bedrock	391-401	13.43	15.56	High	2.13	9
RGWB-02	Monadnock	Bedrock	0-285	16.15	18.27	High	2.12	9
CTW-73	North Woods	Overburden	25-27	8.3	8.3	Below norm	-0.48	19
LCW-01	North Woods	Overburden	28-30	3.27	3.27	Low	-1.02	48
SOWB-01	North Woods	Bedrock	443-453	18.35	22.12	Below norm	-1.99	9
SOWB-02	North Woods	Bedrock	0-303	26.8	19.52	Below norm	-2.09	10
BBW-53	Seacoast	Overburden	21-23	4.89	4.89	Not Analyzed	0	1
EPW-90	Seacoast	Overburden	35.8-37.8	28.32	28.32	Normal	0.55	13
EAWB-01	Seacoast	Bedrock	463-473	22.8	24.4	Above norm	1.6	10
EAWB-02	Seacoast	Bedrock	0-323	21.83	24.27	High	2.44	10
NLW-01	Sunapee	Overburden	0-22.55	11.74	11.74	Normal	0.55	95
NPW-03	Sunapee	Overburden	55-57	7.99	7.99	Below norm	-0.84	24
NPW-06	Sunapee	Overburden	18-20	8.14	8.14	Below norm	-0.9	24
ADW-14	White Mtns	Overburden	77.5-79.5	6.96	6.96	Normal	-0.1	24
ADW-15	White Mtns	Overburden	16-18	8.71	8.71	Normal	0.03	24
CBW-34	White Mtns	Overburden	105-107	14.16	14.16	Below norm	-0.51	25
LLW-19	White Mtns	Overburden	40-42	14.8	14.8	Normal	-0.29	25